CardioKnowledge: A Knowledge Management Environment

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Abstract

Knowledge management supports decision-making by capturing and analyzing key performance indicators, providing visibility into the effectiveness of the business model, and by concentrating collaborative work and employee knowledge reviews on critical business problems. CardioKnowledge is a knowledge management environment based on the business and process requirements of a health care organization in Cardiology. CardioKnowledge supports organizational processes in order to facilitate the communication and exchange of knowledge among the cardiologists, medical students and other employees.

1. CardioKnowledge

The Unit of Cardiology and Cardiovascular Surgery (UCCV) of the Federal University of Bahia performs activities in health-care, research, cardiology education and telemedicine. These activities are all intensive in knowledge. Therefore the UCCV has the same challenges of other health care and university groups: (i) most relevant knowledge is unrecorded and only available in the heads of key employees; (ii) Graduate students, fellows and residents take their knowledge with them when they leave the group; (iii) research groups have different levels of knowledge and capabilities. New group members, therefore, do not acquire an equitable base line understanding of research projects; (iv) insufficient knowledge capture, dissemination, and process improvements results in mistakes being repeated regularly (1), (2). Experience and knowledge are continuously leaving the Unit in the same way that non experience enters in the institution and needs to be trained.

In order to improve knowledge management at the UCCV we decided to develop the CardioKnowledge, an knowledge management environment to support the capture, utilization and dissemination of knowledge across the organization. CardioKnowledge provides information and knowledge through several data, documentation, process, best practices and lessons learned repositories together with a digital library, which constitutes the organizational memory. In addition to the tools related to knowledge acquisition, valuation, and maintenance, general tools include FAQ and bulletin board. Tools were also defined to support specific processes of UCCV. We have already constructed two specific additional tools to support the research activities related to the participation of the UCCV on international clinical trials and to cardiology research projects performed with data from the out-patients clinic. CardioKnowledge is available at the intranet of UCCV and was implemented using ASP Net as the web programming language.

We expect that the use of CardioKnowledge will bring the following benefits: (i) knowledge preservation in the organizational memory; (ii) more effective, efficient, and rapid communications that eliminate delays in problem solving; (iii) the automation of activities that need knowledge-based support; (iv) centralization of the information and knowledge into repositories that promote the generation and the dissemination of knowledge throughout the UCCV, and (v) easiness to incorporate new cardiologists and employees to the UCCV as they will have the support of the environment to perform their tasks according to the organizational processes, knowledge and culture.

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References

1. Wangenheim CG, Lichtnow D, Wangenheim A, Comunello E. Supporting Knowledge Management In University Software R&D Groups. In: Althoff KD, Feldmann RL, Müller W, editors. Advances in Learning Software Organizations. LNCS 2176: Springer; 2001. p. 52-66
2. Stefanelli M. Knowledge Management to Support Performance-based Medicine. Methods of Information in Medicine 2002; 41(1):1-85: 36-43.